

DOCUMENT RESUME

ED 302 583

TM 012 650

TITLE High School Basic Skills. Georgia Student Assessment. Revised.

INSTITUTION Georgia State Dept. of Education, Atlanta. Office of Planning and Development.

PUB DATE Jul 85

NOTE 64p.

PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS Achievement Tests; Educational Assessment; Grade 10; Graduation Requirements; High Schools; High School Students; *Mathematics Achievement; Mathematics Skills; Minimum Competency Testing; Problem Solving; *Reading Achievement; Reading Comprehension; Scores; State Programs

IDENTIFIERS *Georgia Basic Skills Test

ABSTRACT

This document acquaints teachers and curriculum directors with the reading, mathematics, and problem solving indicators assessed by the Georgia Basic Skills Tests, initially given in grade 10. Students who fail initially in grade 10 have at least five other opportunities to take the test and must pass it in order to graduate. In reading, skill areas tested are: (1) literal comprehension, the understanding of information explicitly stated; (2) inferential comprehension, the understanding of material not explicitly stated; and (3) problem solving, testing the students' skills at locating, recognizing, interpreting, and evaluating information. In mathematics, skills areas are: (1) concept development, the basic vocabulary of mathematics and the relationships of numbers; (2) component operations, actions using numbers; and (3) problem solving. For each objective, assessment characteristics define the content required and sample questions illustrate possible formats. All objectives are evaluated in academic, everyday, and employment contexts. Passing scores for students entering high school in 1985-86 are 307 in reading and 308 in mathematics. (SLD)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as
received from the person or organization
originating it.

☐ Minor changes have been made to improve
reproduction quality.

- Points of view or opinions stated in this docu-
ment do not necessarily represent official
OERI position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

A. MOUGHON

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

**Georgia
Student Assessment**

**High School
Basic Skills**

(Revised July 1985)

CONTENTS

Introduction	2
Overview and Content Description	3
Reading	5
Reading Indicators	7
Reading Indicators and Assessment Characteristics	8
Mathematics	27
Mathematics Indicators	29
Mathematics Indicators and Assessment Characteristics	30

INTRODUCTION

This document has been designed to acquaint teachers and curriculum directors with the reading, mathematics, and problem solving indicators assessed by the Georgia Basic Skills Tests. The test format is similar to Georgia criterion-referenced tests at other grade levels.

Test items have been written, reviewed, and edited by Georgia teachers who have had experience with high school students. The reviewers judged the content and reading level of the test items to be suitable for the Basic Skills Tests.

The following information will guide your use of this document.

1. The phrasing of these indicators parallels the objectives used at other grade levels. The similarities in wording emphasize the continuity in assessment.

2. Each indicator has a section labeled *Assessment Characteristics* which describes the content elements that may be tested. This section will be the most valuable for determining the range and type of content that will be covered.

Sample test items follow each set of assessment characteristics. The purpose of the items is to:
describe how an objective will be assessed.

show various formats for the test questions that may appear on the test.

The number of examples does not indicate the proportion of items assessing a particular skill on a test form. The print size and graphics are slightly smaller than they will be on the actual test.

The following pages describe how the competencies for the Basic Skills Tests were defined and described. The content of the tests reflects guidelines presented in state curriculum guides and other documents. However, schools have different materials, and their methods for teaching this content vary. This document can be used to compare assessment and instructional strategies. Should you have any questions about local curriculum, check with your curriculum director. For information about test content or state curriculum guidelines, contact the Division of Curriculum Services, Georgia Department of Education.

GEORGIA BASIC SKILLS TESTS OVERVIEW AND CONTENT DESCRIPTION

The Georgia State Board of Education's Policy IHF states that students "must demonstrate at least minimal mastery of the competency performance standards for the learner as prescribed by the Georgia Board of Education" before obtaining a high school diploma. The State Board directed the Georgia Department of Education to develop evaluation methods for learner competencies; local education agencies are encouraged to prescribe additional life-role skills.

Development of Competencies

Validating the learner competencies was the first step in developing procedures to assess them. As a part of the field testing of revised graduation requirements, tentative competencies were developed by 10 local pilot school systems.

Each system developed descriptive statements relating to life-role areas, and these were reviewed by citizens, students and educators in each system. Each pilot system also developed appropriate curriculum guides and other related materials which incorporate the identified skills into the instructional process.

Those descriptive statements relating to the "learner" role were further evaluated by curriculum specialists and were analyzed, rated and categorized by committees of teachers, curriculum specialists and school administrators. In addition, the statements were sent to a random sample of Georgia teachers, parents and local school board members for rating. This entire process validated competencies for the learner, which included reading, mathematics, problem solving, and writing.

Each of the learner competencies is described by indicator statements. For the reading, mathematics and problem solving competencies, committees of Georgia educators began a process in late 1979 to define each indicator statement and develop guidelines for its measurement. Descriptions of the indicator statements and sample test items are provided in this document. Funding was received to begin a similar process for writing competency in the 1984-85 school year. Indicator statements and their definitions for writing assessment will be available in a separate document in Spring, 1986.

Development of the Basic Skills Tests (BST)

The indicator statements for reading, mathematics and problem solving provided the definition of content to be tested. To standardize administration and scoring, the BST are made up of multiple-choice items. To simplify reporting, the items are arranged in two tests, reading and mathematics. Problem solving is measured by items on both tests.

Once the test content was specified, groups of Georgia educators were trained as item writers. Since new forms of the tests are being developed continually, new individuals are trained periodically and added to the pool of qualified writers. Once items have been developed, they undergo a review process involving several steps, including review by a specially constituted bias review panel. Technical consultants from outside the state have been included in the development and review process.

Items are field-tested by administering them to samples of tenth grade students across the state. After all appropriate statistical analyses have been completed, items are reviewed again. Those which meet the criteria for acceptability for content and statistical properties are then placed in an item file from which the forms of the BST are constructed. To ensure that students taking each form of the test will have to meet comparable standards for a pass/fail decision, items are calibrated by means of item analysis procedures which allow results from multiple forms of the tests to be equated.

The first form of the BST was administered statewide in Spring, 1981; a second form was administered in Fall, 1981. A third administration for samples of students took place in Spring, 1982. Tenth graders tested in Fall, 1982, were the first who were required to pass the tests as part of their graduation requirements.

Setting Standards for the Basic Skills Tests

During December 1981, and January 1982, the Georgia Department of Education conducted workshops to provide information for the Georgia Board of Education's use in setting standards of performance. The workshops were attended by educators, parents and business people from throughout the state. The groups' task was to make judgements about what degree of performance of the BST should be considered minimal. Minimal was defined as a score on the test below which a student did not possess the basic skills required for receiving a high school diploma. Judgements were made based on test content and various item statistics. Results of the workshops were presented to the State Board, which designated the standards (cut scores) to be applied to the reading and mathematics portions of the BST. The board also made the decision to reassess the appropriateness of the original standards once the tests were in place and results of several administrations were available.

Administration of the Basic Skills Tests

The BST are administered during school hours at no cost to the students and take about six hours to complete. Each test consists of between 100 and 120 multiple-choice items. Answer sheets are machine scored. Reports are prepared for the school system and each separate school to indicate overall performance; individual reports are prepared for each student showing how the student performed and what skills should be improved.

Students who began the ninth grade in the 1981-82 school year and thereafter must obtain passing scores on the BST in order to receive a high school diploma. Students take the BST for the first time in the fall of their tenth grade year or in their second year of high school if they have 52 quarter hours or 3½ Carnegie units of credit. Students who fail the first time have at least five additional opportunities to take the tests, which are administered twice each school year.

Students who fail either portion (reading or mathematics) of the BST must retake only the portion which they failed. In between test administrations, school systems provide students special help on those skills that were found to be weak. Students who leave school before passing the BST may return and take the tests later.

Writing assessment will become a part of the basic skills testing in the 1985-86 school year. However, passing the writing test as a prerequisite for a diploma will apply first to students who enter high school as ninth graders in the 1986-87 school year and who are tested in Fall 1987.

Reporting Results of the Basic Skills Tests

Because forms of the BST vary in difficulty, test performance must be reported in terms of scores which have the same meaning each time the test is given. The scores reported are called standard scale scores, or simply, scale scores. Scale scores meet the requirement of comparable meaning across test forms, while other scores, such as number correct or percentage correct, do not. Scale scores are based on raw scores or number of test items correct. Each time a new version of the BST is administered, the raw scores are changed to scores on a constant score scale. This process takes into account differences in difficulty between the various forms of the test and ensures that students who take different forms are meeting the same standard of performance.

Starting with the Fall 1982, administration, the results of the BST were reported on a score scale ranging from a low score of 200 to a high score of 400. This score scale is used for both reading and mathematics. Passing score for both tests was set at 300. The scale range of 200-400 was selected because it is less likely to be confused with other commonly used scales by other testing programs.

As a result of reviewing the first two years of student performance on the tests, the State Board designated new scores for passing which will be in effect for students entering high school as ninth graders in the 1985-86 school year and thereafter. The new passing scores are 307 in reading and 308 in mathematics.

Reading

BASIC SKILLS TESTS READING INDICATORS

LITERAL COMPREHENSION: The literal comprehension skill area tests the student's understanding of information explicitly stated in written material. This category requires the student to identify and recognize explicit information and to interpret directions presented in academic, everyday, or employment contexts.

- Indicator 1:** The student distinguishes between fact and opinion in the context of academic, everyday, or employment materials.
- Indicator 2:** The student recognizes explicitly stated main ideas, details, sequences of events, and cause and effect relationships in the context of academic, everyday, or employment materials.
- Indicator 3:** The student interprets instructions in the context of academic, everyday, or employment materials.

INFERENTIAL COMPREHENSION: The inferential comprehension skill area tests the student's understanding of information which is not expressed literally or directly in written materials. Inferential comprehension items require the student to recognize and interpret implicitly stated information in the context of academic, everyday, or employment materials.

- Indicator 4:** The student recognizes implicitly stated main ideas, details, sequences of events, and cause and effect relationships in the context of academic, everyday, or employment materials.
- Indicator 5:** The student interprets semantic relationships in the context of academic, everyday, or employment materials.
- Indicator 6:** The student interprets figurative language in the context of academic, everyday, or employment materials.
- Indicator 7:** The student recognizes propaganda techniques in the context of academic, everyday, or employment materials.

PROBLEM SOLVING: The problem solving skill area tests the student's skill at locating, recognizing, interpreting, and evaluating information in its various forms and sources.

- Indicator 8:** The student locates information in reference materials in the context of academic, everyday, or employment materials.
- Indicator 9:** The student makes generalizations and draws conclusions in the context of academic, everyday, or employment materials.
- Indicator 10:** The student makes predictions and comparisons in the context of academic, everyday, or employment materials.
- Indicator 11:** The student recognizes relevance of data in the context of academic, everyday, or employment materials.
- Indicator 12:** The student recognizes appropriate reference sources in the context of academic, everyday, or employment materials.

BASIC SKILLS TESTS
READING INDICATORS AND ASSESSMENT CHARACTERISTICS

Skill Area: **Literal Comprehension**

Indicator 1: **The student distinguishes between fact and opinion in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

Items test whether the student can distinguish a factual statement from a statement of opinion or vice-versa.

- A fact is an objective statement which, given the necessary information, could be determined to be accurate or inaccurate using standards such as measurement systems (e.g., the metric system), sensory data, or definitions.

Items do not require students to judge the truth or falsity of factual statements (e.g., Kennedy was elected President in 1974).

- An opinion is an evaluative statement expressing individual preferences and/or beliefs which may or may not be supported in stimulus material presented with the item.

Appropriate materials may be taken from textbooks, editorials, news reports, or book, music, and movie reviews.

Examples for Indicator 1:

distinguishes
opinion

Which is an OPINION?

- (A) LOST: 15 lb. male cat
- (B) Black and white, long hair
- (C) Friendly; never bites
- (D) Hank's home phone: 223-4567

Examples for Indicator 1:

distinguishes
fact

Which is a FACT?

- *(A) Charlie: I am taking biology this quarter.
- (B) Karen: Sounds awful!
- (C) Charlie: But it's preparing me for college!
- (D) Karen: You'll sure have to work hard to pass.

Mogle Industries is searching for new talent. If you can sing or dance or both, don't delay! We have just the right job for you. Come to Room 124 in the Heartwell Building, 4372 Picture Place. Auditions are held daily at 9:00 a.m. and at 2:00 p.m. Please be prompt. This might be your lucky break!

distinguishes
opinion

Which is an OPINION?

- (A) Mogle Industries is searching for new talent.
- *(B) We have just the right job for you.
- (C) Auditions are held daily at 9:00 a.m. and at 2:00 p.m.
- (D) Please be prompt.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Literal Comprehension**

Indicator 2: **The student recognizes explicitly stated main ideas, details, sequences of events, and cause and effect relationships in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

Items require students to identify information which is directly stated in the passage.

- Items may require identifying the main idea (a major point or purpose) of the passage.

Main ideas must be explicit, or directly stated. The main idea is often, but not always, the first or last sentence in the passage.

- Items may require identifying details that are relevant to overall comprehension of the passage.
- For sequence of events items, students may be required to order a series of events described in the passage or identify an event that preceded or followed another event within a sequence.
- Cause-effect items require the student to identify one of the events in the cause-effect relationship or to describe the relationship between two events.

Relational terms (e.g., since, because) are used to indicate explicit relationships.

Examples for Indicator 2:

Animals, not humans, were the first space travelers from Earth. Frogs, mice, rabbits, and dogs were among the early space pioneers. Scientists in the space program wanted to know the effect of weightlessness on the human body. Because the chimpanzee brain is similar to the human brain in size, weight, and structure, chimps were selected for many of the first experiments in space travel. Scientists believed that if the chimpanzees could make a space journey successfully, then humans probably could travel in space, too.

Which is the main idea?

explicit
main idea

- (A) Animals were the first space travelers.
- (B) A chimpanzee's brain is like a human brain.
- (C) Space scientists carry out many experiments.
- (D) Frogs, mice, rabbits, and dogs were good travelers.

explicit cause
and effect

Chimpanzees were used to study the effects of weightlessness because they

- (A) could pass all the tests.
- (B) are about the same size as a human.
- (C) have brains similar to the human brain.
- (D) could travel with frogs, mice, and rabbits.

Examples for Indicator 2:

Mr. Banks was driving to a meeting at the library. He was anxious to get there because he was chairing the meeting and knew he was late. Two blocks from the library, a police officer stopped him. While she was writing out the ticket, Mr. Banks explained why he was speeding. The officer's comment after she handed Mr. Banks the ticket was, "Next time, hurry before you get in the car so you don't have to hurry when you drive."

explicit detail

Who stopped Mr. Banks?

- (A) a committee member
- * (B) a police officer
- (C) the librarian
- (D) Mrs. Banks

explicit
sequence of
events†

Which is the correct order of events?

1. The officer told Mr. Banks not to hurry when he drives.
2. An officer stopped Mr. Banks.
3. Mr. Banks was on his way to a meeting.
4. Mr. Banks got a traffic ticket.

- (A) 2, 1, 4, 3
- (B) 2, 4, 1, 3
- * (C) 3, 2, 4, 1
- (D) 3, 2, 1, 4

explicit
sequence of
events‡

After Mr. Banks was given his ticket, he

- (A) left home for his meeting.
- * (B) was told not to drive fast.
- (C) saw Mrs. Banks at the library.
- (D) discovered he was late for his meeting.

†Sequences may be assessed by ordering events by number.

‡Sequences may be assessed by using before/after relationships.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Literal Comprehension**

Indicator 3: **The student interprets instructions in the context of academic, every-day, or employment materials.**

Assessment Characteristics:

- Items require the student to use instructions or other directive information. Instructions may be presented in narrative style or in contexts such as forms, lists, steps, non-numerical tables, flow charts, labels, or applications.

Instructions in an academic setting, (e.g., how to arrange sections of a term paper), may be appropriate when all background information is provided for the student.

Activities or instructions that may be very familiar to students, (e.g., changing a tire) are not used. Such items would test prior knowledge rather than reading skills.

Examples for Indicator 3:

Jack's teacher provided this format for bibliographic information:

Snelling, L. (1980) Studying Clouds. Jones and Smith Publishing Co.

Which of Jack's bibliographic entries follows his teacher's guide?

- (A) Coleman, B. Controlling Weather. U.S. Government Printing Office.**
- (B) Green, M. (1964) Learning to Read the Clouds. University Press, 1964.**
- *(C) Murphy, L. (1972) Clouds and Rain. Science Associates Press.**
- (D) Nelms, K. (1972) The Science of Weather.**

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: Inferential Comprehension

Indicator 4: The student recognizes implicitly stated main ideas, details, sequences of events, and cause and effect relationships in the context of academic, everyday, or employment materials.

Assessment Characteristics:

Items require the student to answer questions based on information which is implied (not directly stated) in the passage.

Implicit information can be thought of as information found "between the lines," with clues available in the passage.

- Main idea items test students' ability to distinguish a major point or purpose of the passage from minor points, details, or from inaccurate summary statements.
- Detail items require the student to recognize the appropriate piece of information that answers a question. Details selected are relevant to passage comprehension.
- Sequence of events items require the student to order a series of events described in the passage or to identify an event that precedes or follows another event.

Events selected are necessary or relevant to overall passage comprehension.

Items which ask for the final event in a sequence are categorized as prediction, and not as implicit sequence.

- Cause-effect items require students to identify a situation or event in the cause-effect relationship or to describe the relationship between two events, situations, or people.

Relational terms such as "because" and "therefore" are not used because they make a relationship explicit.

Examples for Indicator 4:

Georgia peach farmers recently met in Atlanta. They discussed the mildness of last year's winter and the fact that there were not enough cold days for the peach crop to develop properly. Last year's peach crop was also plagued by insects that damaged the peaches while they were still ripening on the trees.

**Implicit
main idea**

Which is the main idea?

- (A) Peaches will be expensive this year.
- (B) There are many peach farmers in Georgia.
- (C) A better insect spray must be developed for peach trees.
- *(D) Peach farmers met to talk about problems affecting their crop.

Examples for Indicator 4:

HELP WANTED

B.S. Degree. Experience in theft and casualty insurance. Statistical reporting and accounting helpful. Attractive fringe benefits. Send resume to Personnel Office, P.O. Box 795, Berkline, GA 31002.

implicit
detail

A person answering this ad should

- * (A) have sold casualty insurance.
- (B) know about fringe benefits.
- (C) be an expert accountant.
- (D) like to travel.

(The following passage is a revised version of one used for Indicator 2 on explicit information. The revision allows for implicit questions.)

Mr. Banks was on his way to a meeting at the library. He checked his watch and realized it was later than he thought. He was anxious to get there because he was chair of the committee. Two blocks from the library, a police officer stopped Mr. Banks. As the officer handed Mr. Banks the ticket, she asked him why he was in such a hurry.

implicit
sequence
of events

Which is the correct order of events?

1. A police officer stopped Mr. Banks.
2. Mr. Banks saw that he was late for a meeting.
3. The police officer pulled out a ticket book.
4. Mr. Banks got ready for his meeting.

- (A) 2, 1, 3, 4
- (B) 2, 3, 1, 4
- * (C) 4, 2, 1, 3
- (D) 4, 1, 3, 2

implicit
cause and
effect

Why did the police officer stop Mr. Banks?

- * (A) Mr. Banks was speeding.
- (B) The officer wanted to say hello.
- (C) Mr. Banks was on the wrong street.
- (D) The officer was checking driver's licenses.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Inferential Comprehension**

Indicator 5: **The student interprets semantic relationships in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

- Semantic items require the student to determine the meaning of a particular word or phrase.

Words with multiple or unfamiliar meanings are chosen for these items.

Sentences or passages provide students with context clues to assist in answering items. Words or phrases are not presented in isolation.

Prior knowledge of the word being tested is not necessary to answer questions. Options use words which are familiar to the students.

Examples for Indicator 5:

Mrs. Jasperson decided that Terry and Lee would have to face the consequences of their carelessness. They would have to pay for the window that their baseball shattered.

semantic
relationships

Face means

- (A) surface.
- (B) turn over.
- * (C) meet and accept.
- (D) facial expression.

After three days without food, the dog voraciously ate the meat scraps the lady gave him.

semantic
relationships

Voraciously means

- (A) slowly.
- (B) angrily.
- * (C) hungrily.
- (D) carefully.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Inferential Comprehension**

Indicator 6: **The student interprets figurative language in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

- Items require the student to recognize the non-literal meaning of metaphors, similes, and hyperboles. Items do not test terminology.

Idioms (e.g., take a walk), clichés (e.g., as slow as molasses), and slang are not used in these questions.

The phrase in question is given within a context to help clarify the meaning.

Example for Indicator 6:

To the reporters in the helicopter, the runners warming up for the marathon looked like corks bobbing in water.

figurative
language

Corks bobbing in water means the runners were

- (A) fishing.
- (B) at the beach.
- *(C) jogging in place.
- (D) running through puddles.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: Inferential Comprehension

Indicator 7: The student recognizes propaganda techniques in the context of academic, everyday, or employment materials.

Assessment Characteristics:

- Items require the student to recognize an underlying, but not directly stated, intent to mislead, misinform, or persuade.

These items may provide examples of various propaganda techniques, such as testimonials (famous persons), bandwagon (everyone is using/doing it), card stacking (only positive information), authoritative opinion ("Doctors say...").

These items do not test terminology (e.g., "Which is a bandwagon technique?").

Students must focus on the intent of the item, rather than the literal interpretation.

Conversations and editorials, for example, are used to assess propaganda occurring in contexts other than advertisements.

Examples for Indicator 7:

propaganda
techniques

A woman on TV said that girls like boys who use the product she was advertising. The advertisement was designed to make the viewer think that the product will

- (A) be expensive.
 - *(B) get a boy more dates.
 - (C) make the woman on TV famous.
 - (D) make money for the TV station.
-

propaganda
techniques

"But, Dad," Charlie said, "I need the car for the tournament game! Everybody's counting on me. The game is only 25 miles away. It's an early game, so I won't be home late. I'm the best driver of all of us who are going. You know I will be careful."

How did Charlie try to convince his dad to let him use the car?

- (A) His friends all wanted him to drive.
- (B) He explained why he wanted to see the game.
- (C) He gave reasons why he should and should not borrow the car.
- *(D) He told his dad only good reasons why he should use the car.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Problem Solving**

Indicator 8: **The student locates information in reference materials in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

- Items require the student to locate information needed for a specific task. Examples from the following resources could be used:
 - library reference materials
 - dictionaries
 - glossaries
 - indices
 - appendices
 - tables of contents
 - telephone books
 - atlases
 - public information documents
 - personal contacts
- Items may require using cross-referencing and multiple-step search strategies.

Examples for Indicator 8:

uses multiple-
step search
strategies

Joyce wanted to find out about a water bird called the "ibis." She looked up "birds" in several books and couldn't find any information. Which should she do next?

- (A) Look up "ibis."
- (B) Look up "water."
- (C) Ask her best friend what to do.
- (D) Look up "birds" again in another book.

Example for Indicator 8:

INDEX

Oxygen
 importance to plants, 15
 importance in breathing, 11
Pesticides, 23, 65
Plants
 crop damage, 51-55
 forests, 10, 46-49, 51
 importance of oxygen, 15
Pollution
 control of, 83
 sources of, 82
 tests to measure, 85
Smoke, 36, 37, 39
Sunlight, 25, 31

locates
information
in an index

Josh does not know how pollution in the atmosphere is measured. To which page should he refer?

- (A) 11
- (B) 15
- (C) 83
- *(D) 85

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Problem Solving**

Indicator 9: **The student makes generalizations and draws conclusions in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

- Generalization items require the student to use information from the passage to either formulate a generalization or to apply a generalization to another situation.

A generalization is a special type of conclusion that is applied to other situations, points in time, people or events beyond those described in the passage.

The generalization statement must be drawn from one situation and applied to another (e.g., if the passage is used to derive the generalization, the question must ask for its application in another context or situation).

- Conclusion items require students to recognize a statement that brings closure to a passage and is specific to the situation in a given passage.

Multiple pieces of information are provided in the passage on which the conclusion is based.

Examples for Indicator 9:

Mack finally found a company that needed after-school help. Today he was going for an interview. He knew first impressions are important, so he carefully pressed his clothes. Because he forgot to watch the time, he was going to be about 15 minutes late. That wouldn't matter much, he thought.

When he arrived for the interview, the employer noted that Mack seemed unconcerned about being 15 minutes late. From the school records Mack included with his application, the employer discovered that Mack had been late for school as often as three mornings a week. After the interview, the employer decided not to hire Mack even though he seemed qualified.

makes
generalizations †

Which did the employer decide about Mack?

- *(A) Being on time was not important to Mack.
- (B) Mack was unconcerned about his appearance.
- (C) Mack could work only three mornings a week.
- (D) School would interfere with Mack's job schedule.

During the 1970s, people were not buying new cars as often as they had in the past. According to one study conducted during that time, sales of some models declined as much as 34 percent. As a result, the sales slump caused several auto manufacturing plants to close.

draws
conclusions

During the 1970s, auto workers probably

- (A) drove 34 percent less on weekends.
- *(B) found fewer jobs available.
- (C) made more money per car.
- (D) began selling cars.

† On the test, long passages like this one will have several questions from other indicators.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Problem Solving**

Indicator 10: **The student makes predictions and comparisons in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

- Prediction items require students to identify the next most likely event based on other events and/or clues stated in a passage.

Given the details of the passage, the prediction is a logical result or next event.

- Comparison items require the student to answer questions involving a comparison or to identify the dimension(s) along which a comparison is made.

Comparison items may involve similarities or differences between events, people or situations.

Comparisons may involve evaluating which problem solving strategy would be more appropriate, given the criteria specified in the passage. Criteria for evaluating alternate solutions must be specified or clearly implied.

The dimension (e.g., expense, time) for making a comparison is always clearly specified.

Examples for Indicator 10:

People who are afraid of snakes may be unaware that neither poisonous nor nonpoisonous snakes are aggressive. Generally, snakes will not attack unless threatened. Knowing certain physical characteristics of poisonous and nonpoisonous snakes may also reduce the fear some people have.

Nonpoisonous snakes are active hunters, and, therefore, usually are more slender than poisonous snakes. Because poisonous snakes have venom sacs, their heads are usually wider and their necks are more visible than those of nonpoisonous snakes. The eyes of poisonous snakes have round pupils, whereas the eyes of nonpoisonous snakes have pupils which are elliptical.

makes
comparisons

Poisonous and nonpoisonous snakes are alike because they both

- (A) have venom sacs.
- *(B) attack when threatened.
- (C) are equally active hunters.
- (D) have heads which are the same shape.

Examples for Indicator 10:

Rico and Mandy decided to have a picnic for their volleyball teams. Rico said he'd make the food if Mandy would bring paper plates, napkins, and something to drink. They decided their friends could bring their own blankets or chairs to sit on. Mandy called everyone and told them to be at the park Saturday at 2:00 p.m.

Saturday morning arrived. Rico finished preparing the food. Mandy had the plates and napkins. She had the drinks in a large cooler. About 2:00 everyone began arriving at the park. They decided to play volleyball before they ate.

By 4:00 they were tired and hungry. As Rico and Mandy set out the food, someone called out "Hey, where are we going to sit?"

makes
predictions †

Which probably happened next?

- (A) Rico left the picnic.
- (B) Everyone decided to play volleyball again.
- (C) Mandy blamed Rico for not bringing enough food and ruining the picnic.
- * (D) Mandy apologized for forgetting to tell everyone to bring something to sit on.

† In the test, long passages have several associated questions usually from various indicators.

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Problem Solving**

Indicator 11: **The student recognizes relevance of data in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

Relevance of data items require students to identify relevant or irrelevant information necessary to make a decision about a problem or situation presented in the passage.

- Items may require students to identify what additional information is necessary to solve the problem.

In an employment context, for instance, items may require selecting the most appropriate question when given the purpose of an interview or meeting.

- Items may require the student to identify information extraneous to the situation.

If the item requires some interpretation of the importance of data, the criteria for making a decision is specified.

Examples for Indicator 11:

Luke, Maria's friend who is a mechanic, offered her this information:

- 1. The Elan is as well-constructed a car as you'll find anywhere.**
- 2. The Elan has great looks and handles well on the highway.**
- 3. Compared to other compact cars, the Elan may be a little more expensive.**
- 4. Compared to other makes, fewer Elans come through my shop for repairs.**

**relevance of
data**

Maria doesn't have much money to spend on upkeep and repairs for a car. If she wants to buy an Elan, which statement provides the most useful information for her decision?

- (A) 1
- (B) 2
- (C) 3
- *(D) 4

**BASIC SKILLS TESTS
READING INDICATORS**

Skill Area: **Problem Solving**

Indicator 12: **The student recognizes appropriate reference sources in the context of academic, everyday, or employment materials.**

Assessment Characteristics:

- Items require the student to identify which reference source is most useful to solve a specific problem.

Possible sources include:

- | | |
|------------------|-----------------------|
| - encyclopedias | - road maps |
| - dictionaries | - card catalogs |
| - yellow pages | - catalogs |
| - classified ads | - labels |
| - advertisements | - government agencies |
| - repair manuals | - cookbooks |

Sources are not restricted to written references; a person may be considered as a resource.

Items may focus on why one source is more appropriate than another given a specific purpose, or which is the "next best source" should the most obvious or best source be unavailable.

Examples for Indicator 12:

appropriate
reference
resources

Ramon needs information about purchasing new tires for his car. Which reference would contain useful information?

- (A) atlas
- (B) almanac
- *(C) newspaper ad
- (D) auto repair manual

appropriate
reference
resources

Jana had to write a report on recent trends in immigration and the types of jobs chosen by newcomers to the United States. After using the resources in the school library, where might Jana find additional information about her topic?

- (A) Yellow Pages
- (B) travel agent
- *(C) Bureau of Labor Statistics
- (D) Department of Transportation

Mathematics

BASIC SKILLS TESTS: MATHEMATICS INDICATORS

CONCEPT IDENTIFICATION: This skill area concerns the basic vocabulary of mathematics and the relationship of different kinds of numbers.

- Indicator 1: The student translates numerical forms of rational numbers for academic tasks, everyday tasks, or employment activities.
- Indicator 2: The student orders fractions, decimals, or percents in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 3: The student identifies customary or metric units to measure length, area, volume, weight, time and temperature in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 4: The student identifies sets of points using standard names or Cartesian coordinates in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 5: The student identifies geometric relations and properties in the context of academic tasks, everyday tasks, or employment activities.

COMPONENT OPERATIONS: This skill area involves actions using numbers. The student must be able to add, subtract, multiply and divide numbers as well as use units of measurement.

- Indicator 6: The student applies formulas and proportions in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 7: The student computes with whole numbers, fractions, decimals and percents in the context of academic tasks.
- Indicator 8: The student determines amounts of money in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 9: The student applies customary or metric units of measurement to determine length, area, volume, weight, time and temperature in the context of academic tasks, everyday tasks, or employment activities.

PROBLEM SOLVING: This skill area requires the student to select and apply the appropriate concepts and/or operations to solve problems.

- Indicator 10: The student estimates results using rounded numbers, with or without units of measurement, in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 11: The student selects appropriate operations for a given problem situation in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 12: The student solves simple word problems in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 13: The student organizes data into tables, charts, and graphs in the context of academic tasks, everyday tasks, or employment activities.
- Indicator 14: The student interprets data which has been organized in the context of academic tasks, everyday tasks, or employment activities.

**BASIC SKILLS TESTS
MATHEMATICS INDICATORS**

Skill Area: **Concept Identification**

Indicator 1: **The student translates numerical forms of rational numbers for academic tasks, everyday tasks, or employment activities.**

Assessment Characteristics:

- Items may require translating numerals to words or the reverse.

Either whole numbers (up to seven digits) or decimals (up to three places to the right of the decimal point) may be used.

- Items may require translating decimals (less than one with no more than two places) to percents or the reverse.

Students are not asked to translate percents greater than 100, nor percents with fractions ($\frac{1}{4}\%$) or decimals (.25%). These numbers, however, could appear in the answer choices.

- Items may require translating fractions to percents and the reverse.

Fractions are limited to halves, thirds, fourths, fifths, eighths, tenths, hundredths, and denominators that are factors of 100 (e.g., $\frac{1}{20}$).

If a question asks about translating thirds to percents, the wording "... is closest to..." will be used; the decimals ".33" and ".67" will be used as correct answers.

Percents are 100 or less and may include fractions ($12\frac{1}{2}\%$).

- Items may require translating fractions to decimals and the reverse.

Mixed numbers ($37\frac{1}{2} = 37.5$) and decimals up to thousandths place are included, but improper fractions are not. Fractions used in options would be in lowest terms, but those in the stems do not have to be reduced.

Examples for Indicator 1:

translates
words to
numerals

Which is thirteen thousand nine hundred eighty-nine?

- (A) 13,989
- (B) 13,998
- (C) 130,989
- (D) 139,890

Examples for Indicator 1:

translates
percents
to decimals

Two percent (2%) of the light bulbs made at the Star Bright Factory are defective. Which shows the percentage of defective bulbs as a decimal fraction?

- (A) .002
- * (B) .02
- (C) .20
- (D) 2.00

translates
percents to
fractions

Which fraction is $37\frac{1}{2}\%$?

- * (A) $\frac{3}{8}$
- (B) $\frac{3}{7}$
- (C) $\frac{1}{2}$
- (D) $\frac{7}{3}$

translates
fractions to
percents

Which is closest to $\frac{1}{3}$?

- (A) 13%
- (B) 31%
- * (C) 33%
- (D) 66%

translates
fractions to
decimals

Which is $\frac{1}{8}$?

- (A) .018
- (B) .12
- * (C) .125
- (D) .18

translates
decimals to
fractions

Which is closest to .66?

- (A) $\frac{1}{6}$
- * (B) $\frac{2}{3}$
- (C) $\frac{1}{3}$
- (D) $\frac{5}{6}$

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Concept Identification

Indicator 2: The student orders fractions, decimals or percents in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items may require ordering either fractions, decimals, or percents, from least to greatest or the reverse.
- Items may ask which is greatest or least or which is between.

Options are either all fractions, all decimals, or all percents.

Fractions include halves, thirds, fourths, fifths, eighths, tenths, twelfths, and hundredths. They may have different denominators.

Mixed numbers ($14\frac{3}{8}$) can be used; however, improper fractions cannot.

Decimals include tenths, hundredths, and thousandths.

Percents such as 150%, 23.75%, or 5% may be used.

Examples for Indicator 2:

orders
percents

Marie just got a job and is figuring her budget. She spends 28% of her income on rent, 29% on food, 13% on gas, 16% on entertainment, and 14% goes to savings. Which is the order of expenses from LEAST to GREATEST?

- (A) rent, food, gas, entertainment, savings
- *(B) gas, savings, entertainment, rent, food
- (C) entertainment, food, gas, savings, rent
- (D) food, rent, entertainment, savings, gas

orders
decimals

Which is greatest?

- (A) 0.6
- *(B) 6.6
- (C) 0.66
- (D) 6.066

Examples for Indicator 2:

WALKER HIGH SCHOOL FAIR

CLASS	CONTRIBUTION
Freshman	27.0%
Sophomore	25.25%
Junior	23.25%
Senior	24.50%

orders
percents

Which shows the classes' contributions to the school fair from LEAST to GREATEST?

- *(A) Junior, Senior, Sophomore, Freshman
- (B) Freshman, Sophomore, Junior, Senior
- (C) Junior, Senior, Freshman, Sophomore
- (D) Freshman, Junior, Senior, Sophomore

orders
fractions

Which is between $\frac{2}{3}$ and $\frac{5}{6}$?

- (A) $\frac{4}{6}$
- (B) $\frac{5}{6}$
- *(C) $\frac{3}{4}$
- (D) $\frac{7}{6}$

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Concept Identification

Indicator 3: The student identifies customary or metric units to measure length, area, volume, weight, time and temperature in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items require choosing the unit that applies to a specific measurement problem, such as selecting the appropriate type of unit.
- Items require determining the precision of measurement required for a given problem situation and then selecting the appropriate size unit for that degree of precision.
- Items do not require conversions from metric to customary or the reverse. Appropriate units include:

gram
ounce
pound
ton

second
minute
hour
day
week
month

liter
pint
quart
gallon
cup

meter
inch
foot
yard
mile
(Linear, square and cubic
units are included.)

degree Celsius
degree Fahrenheit

Prefixes milli-, centi-, and kilo- may be added to the three metric units listed above.

Examples for Indicator 3:

selects unit
of volume

Which unit of measurement should be used to measure the amount of water in a bathtub?

- (A) gram
- * (B) liter
- (C) meter
- (D) kilogram

selects size
of unit of
weight

Which is closest to the weight of a textbook?

- (A) 1 gram
- (B) 1 centigram
- (C) 1 milligram
- * (D) 1 kilogram

selects unit
of length

Which unit is suitable for measuring a person's height?

- * (A) centimeter
- (B) cubic meter
- (C) kilogram
- (D) kilometer

selects unit
of area

Which could be the area of a porch?

- (A) 120 cubic inches
- * (B) 120 square feet
- (C) 120 feet
- (D) 120 inches

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Concept Identification

Indicator 4: The student identifies sets of points using standard names or Cartesian coordinates in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items may require students to select or name geometric shapes.

Plane figures such as circles, triangles, squares, rectangles, points, lines, planes and parallelograms may be included. Solid figures such as cones, cubes, cylinders, spheres and pyramids may be included.

- Items may require students to use ordered pairs (including Cartesian coordinates) to describe or locate points on a graph or map.

Examples for Indicator 4:

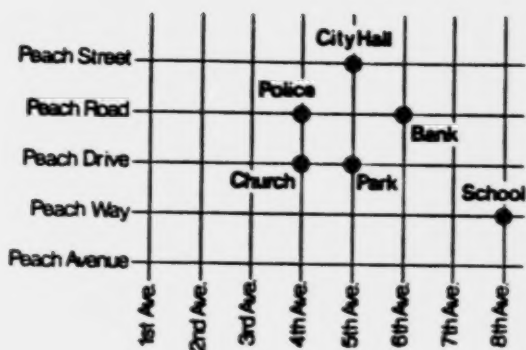


names
solid figures

Which names the shape of the figure?

- (A) cone
- (B) cylinder
- (C) prism
- (D) sphere

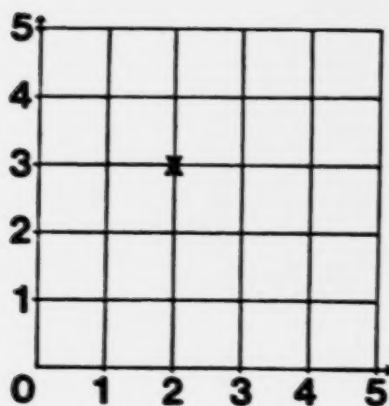
Examples for Indicator 4:



uses
ordered pairs

At which corner is City Hall located?

- (A) 4th Ave. and Peach Street
- (B) 5th Ave. and Peach Drive
- *(C) 5th Ave. and Peach Street
- (D) 6th Ave. and Peach Road



uses
Cartesian
coordinates

At which point is "X" located?

- (A) (2,2)
- *(B) (2,3)
- (C) (3,2)
- (D) (3,4)

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Concept Identification

Indicator 5: The student identifies geometric relations and properties in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items may require students to identify geometric relations.

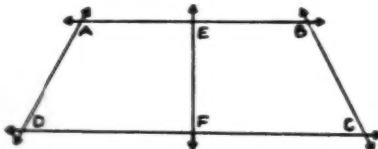
Relations include parallel, perpendicular, similar, congruent, vertical, horizontal, opposite, and adjacent.

- Items may require students to identify geometric properties.

Properties may include the number of degrees in a right angle, circle, triangle, and rectangle. Items may also include the relationships between sides of figures (e.g., equal, parallel, perpendicular).

Students may also be asked to identify shapes which have been transformed by rotation, expansion or reflection.

Examples for Indicator 5:



identifies
geometric
relations

Which pair of lines is parallel?

- (A) AD and BC
- (B) EF and DC
- *(C) AB and DC
- (D) EF and BC

Examples for Indicator 5:

identifies
geometric
relations

Marty has a drawing that is 4" by 5". He wants to enlarge it to 8" by 10". Which describes the relation between the two drawings?

- (A) adjacent
- (B) congruent
- (C) perpendicular
- *(D) similar

identifies
geometric
properties

How many degrees are in half a circle?

- *(A) 180°
- (B) 90°
- (C) 60°
- (D) 50°

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: **Component Operations**

Indicator 6: **The student applies formulas and proportions in the context of academic tasks, everyday tasks, or employment activities.**

Assessment Characteristics:

- Items may require students to substitute numbers for variables in a formula.
- Items may require students to use a formula to solve a problem.

Students must know conventions of reading formulas (i.e., $lwh = l \times w \times h$) as well as how to apply them.

Appropriate formulas include simple interest, distance-rate, miles per gallon and nonstandard formulas.

Students are expected to know the formulas for simple interest ($I = prt$) and distance ($D = rt$). Complex formulas such as the Pythagorean theorem and compound interest are not included.

- Items may require students to set up and solve proportion problems.

Problem situations may include the use of similar figures, scale drawings or unit pricing.

Examples for Indicator 6:

manipulates
formulas

If $D = \frac{1}{2}P + G$, then $P =$

- (A) $D - G$
- (B) $D + G$
- (C) $2D + G$
- (D) $2D - 2G$

substitutes
numbers in
nonstandard
formulas

If $P = a + b + c$, and $a = 3\frac{1}{2}$, $b = 4$, and $c = 2\frac{3}{4}$, which is P ?

- (A) $3\frac{2}{3}$
- (B) $9\frac{2}{3}$
- (C) $10\frac{1}{4}$
- (D) $38\frac{1}{2}$

Examples for Indicator 6:

applies
formulas

Mr. Green borrowed \$3,600 for 1 year at 14% simple interest. If he decided to pay back the money in 6 months, which is the amount of interest Mr. Green would pay?

- * (A) \$ 252
- (B) \$ 504
- (C) \$1,008
- (D) \$3,620

applies
formulas

If $C = 2\pi r$ and $\pi = 3.14$, which is the radius of a record with a circumference of 94.2 cm?

- (A) 3.14 cm
- (B) 6.28 cm
- * (C) 15 cm
- (D) 30 cm

applies
proportions

If a motorcycle goes 25 miles on a half-gallon of gas, how many miles will it travel on 3 gallons?

- (A) 50
- (B) 75
- (C) 125
- * (D) 150

SHAMPOO		
Fluff	4 oz.	\$1.37
Natural	7 oz.	\$1.89
Pearl	8 oz.	\$1.99
Sleek	11oz.	\$2.95

applies
proportions

Which shampoo costs least per ounce?

- (A) Fluff
- (B) Natural
- * (C) Pearl
- (D) Sleek

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Component Operations

Indicator 7: The student computes with whole numbers, fractions, decimals and percents in the context of academic tasks.

Assessment Characteristics:

- Items require students to add, subtract, multiply, and divide using whole numbers, fractions, decimals, and percents.

Computational problems may be presented horizontally or vertically.

Word problems are not included.

Whole numbers:

In addition and subtraction, each number is less than 1,000,000. In multiplication the total number of digits in the two factors is no more than 6. In division, divisor may be 3 digits or less; dividends, 5 digits or less. Quotients may contain a zero. Division problems may require annexing a zero.

Fractions:

Fractions may include mixed numbers. Like and unlike denominators may also be used. Fractions do not have to be in reduced form. Improper fractions should not be used.

Decimals:

Decimals are not more than three places to the right of the decimal point.

Percents:

Percents are never less than 1 or more than 100. Items may include finding the percentage, rate or base. Percents of increase or decrease problems are not included.

- Items test students' understanding of the mathematical properties of numerical operations, including associative, commutative, distributive, and inverse properties, and the properties of zero and one.

Examples for Indicator 7:

multiplies
decimals

$$\begin{array}{r} .41 \\ \times .7 \\ \hline \end{array}$$

- (A) .0287
- * (B) .287
- (C) 2.87
- (D) 28.7

divides
fractions

$$9 \div 2\frac{1}{4} =$$

- (A) $\frac{9}{4}$
- (B) $3\frac{8}{9}$
- * (C) 4
- (D) $20\frac{1}{4}$

calculates
percents

20 is what percent of 100?

- (A) 5%
- * (B) 20%
- (C) 50%
- (D) 200%

calculates
percents

27 is 30% of what number?

- * (A) 90
- (B) 81
- (C) 57
- (D) 3

adds
decimals

$$.97 + .7 =$$

- (A) .164
- (B) .977
- (C) 1.04
- * (D) 1.67

Examples for Indicator 7:

$$\begin{array}{r} 4 \\ - 2\frac{2}{3} \\ \hline \end{array}$$

subtracts
fractions

- *(A) $1\frac{1}{3}$
- (B) $1\frac{2}{3}$
- (C) $2\frac{1}{3}$
- (D) $2\frac{2}{3}$

divides
decimals

$$50.25 \div 25 =$$

- *(A) 2.01
- (B) 2.1
- (C) 20.1
- (D) 201

identifies
associative
property

Which statement is always true?

- (A) $(a + b) + c = ab + c$
- *(B) $(a + b) + c = a + (b + c)$
- (C) $ab + c = (a + b) + c$
- (D) $a + b + c = abc$

identifies
distributive
property

$$3982(471 + 560) =$$

- (A) $(3982 + 471) \times (3982 + 560)$
- *(B) $(3982 \times 471) + (3982 \times 560)$
- (C) $(471 \times 3982) + 560$
- (D) $471(3982 + 560)$

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Component Operations

Indicator 8: The student determines amounts of money in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items require students to count money.

Denominations include pennies, nickels, dimes, quarters, and \$1, \$5, \$10, and \$20 bills.

- Items require students to make change.

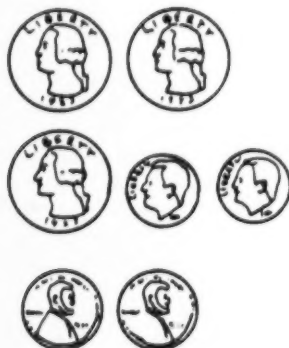
Items may ask students to determine the least number of coins required for a specific amount.

Making change may be done either by subtracting or by counting.

- Items require students to solve word problems involving money.

Computing sales tax and discounts may be included.

Examples for Indicator 8:



determines
amounts of
money

How much money is shown?

- (A) \$.87
- (B) \$.97
- (C) \$8.70
- (D) \$9.70

Examples for Indicator 8:

Butter Beans	
"You Pick"	\$12.00 a bushel
"We Pick"	\$17.00 a bushel
"We Shell"	\$ 1.50 a bushel extra

solves
word
problems

Which is the cost of one bushel of butter beans if the buyer has them picked and shelled by the seller?

- (A) \$ 1.50
- (B) \$13.50
- *(C) \$18.50
- (D) \$30.50

determines
discounts

Employees at Spain's Restaurant are given a 60% discount on meals. Which would George pay for a \$6.14 lunch after his discount?

- (A) \$.60
- *(B) \$ 2.46
- (C) \$ 3.68
- (D) \$ 6.74

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Component Operations

Indicator 9: The student applies customary or metric units of measurement to determine length, area, volume, weight, time and temperature in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items may require students to apply customary or metric units of measurement.

Appropriate units include:

gram	second
ounce	minute
pound	hour
ton	day
	week
	month
liter	
pint	meter
quart	inch
gallon	foot
cup	yard
	mile
	(Linear, square and cubic units are included.)

degree Celsius
degree Fahrenheit

Prefixes milli-, centi-, and kilo- may be added to the three metric units listed above.

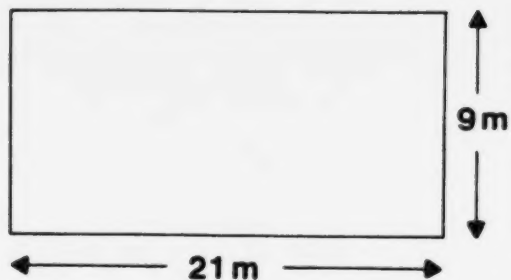
- Items include calculating area and perimeter of circles, triangles, parallelograms and odd-shaped figures (see examples); and calculating volume of rectangular prisms.

Both standard and nonstandard units can be used.

The formulas for calculating the area of circles and triangles and the circumference of a circle are given. Formulas for calculating the area of squares and rectangles and the volume of a rectangular prism are not given.

- Items may require students to convert units of measurement within systems (either metric or customary), not between systems. Conversion formulas are not given.

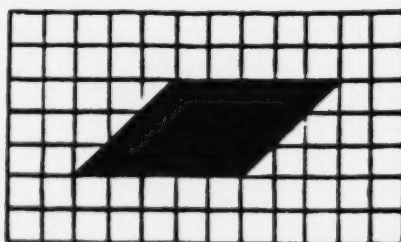
Examples for Indicator 9:



applies
metric
units to
determine
area

Which is the area of the rectangle?

- (A) 30 m^2
- (B) 60 m^2
- (C) 95 m^2
- *(D) 189 m^2

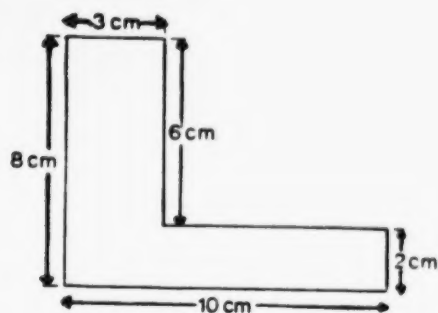


applies
nonstandard
units to
determine area

How many square units are in the shaded region?

- (A) 9
- (B) 12
- *(C) 15
- (D) 16

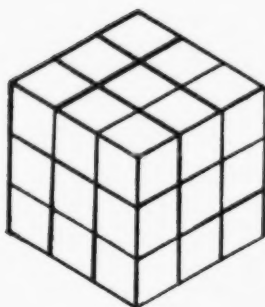
Examples for Indicator 9:



applies
units to
determine area

Which is the area of this figure?

- (A) 18 cm^2
- (B) 24 cm^2
- *(C) 38 cm^2
- (D) 60 cm^2



= 1 unit

applies
nonstandard
units to
determine
volume

How many cubic units are in this cube?

- (A) 18
- *(B) 27
- (C) 36
- (D) 54

Examples for Indicator 9:

Day	Temperature
Monday	6° F
Tuesday	10° F
Wednesday	21° F
Thursday	26° F
Friday	13° F

applies
units for
temperature

Which is the difference between the highest and lowest temperature?

- (A) 0°
- (B) 7°
- (C) 10°
- *(D) 20°

applies
units for
time

Mr. Williams wants to harvest his corn for the Fourth of July holiday. If corn needs an 80-day growing period, about when should he plant?

- (A) April 1
- *(B) April 10
- (C) May 1
- (D) May 10

converts
units

Maria bought a can of juice marked 1 quart, 14 ounces. Which shows the total number of ounces she bought?

- (A) 24
- (B) 30
- (C) 32
- *(D) 46

converts
units

How many pints equal 6 cups?

- (A) 1
- *(B) 3
- (C) 12
- (D) 24

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: **Problem Solving**

Indicator 10: **The student estimates results using rounded numbers, with or without units of measurement, in the context of academic tasks, everyday tasks, or employment activities.**

Assessment Characteristics:

- Items require students to evaluate the reasonableness of results, using estimation in the planning stages of problem solving.

To estimate computations, items require students to round numbers to estimate sums, differences, products, and quotients. Items are not presented in a manner that encourages or allows students to calculate the results and then round the answer.

To estimate measurements, items require estimating length, area, volume, or weight of a figure using standard or nonstandard units.

- Items may also ask which of several different strategies would provide the best estimate of a quantity.

Examples for Indicator 10:

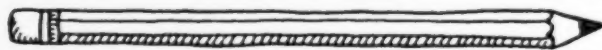


estimates
measurements

If carton X holds 1 pint of ice cream, about how much does carton Y hold?

- (A) 2 pints
- (B) 4 pints
- (C) 6 pints
- (D) 8 pints

Examples for Indicator 10:



— = 1 cm.

estimates
measurements

About how long is the drawing of the pencil?

- (A) 6 cm
- *(B) 9 cm
- (C) 12 cm
- (D) 15 cm

estimates
computations

Which is the closest estimate of $\begin{array}{r} 682 \\ \times 22 \\ \hline \end{array}$?

- (A) $\begin{array}{r} 650 \\ \times 30 \\ \hline \end{array}$
- *(B) $\begin{array}{r} 680 \\ \times 20 \\ \hline \end{array}$
- (C) $\begin{array}{r} 680 \\ \times 30 \\ \hline \end{array}$
- (D) $\begin{array}{r} 690 \\ \times 30 \\ \hline \end{array}$

determines
best strategy

Jose wanted to estimate the number of gallons of paint required to put one coat of paint on his house. Which method would give the closest estimate?

- (A) Find the perimeter of the house, divide by the number of square feet a gallon should cover, and multiply by two.
- (B) Count the number of sides of the house and subtract the area of the windows.
- (C) Count the number of rooms in the house and multiply by the area of an outside wall.
- *(D) Find the number of square feet of the surface to be painted and divide by the area a gallon would cover.

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Problem Solving

Indicator 11: The student selects appropriate operations for a given problem situation in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Word problems present situations which require students to choose the steps needed to solve a problem.

No more than three arithmetical operations can be combined to solve the problem.

Problems may include whole numbers, fractions, and decimals. Distractors focus on logical, not computation, errors.

The steps may or may not be written as mathematical expressions.

Example for Indicator 11:

Shipping cost: \$.22 for the first ounce,
\$.17 for each additional ounce or fraction up to 12 ounces

selects
appropriate
operations

Which shows the total cost of shipping a 10-ounce package?

- *(A) $1(.22) + 9(.17)$
- (B) $1(.22) + 10(.17)$
- (C) $.22 + .17$
- (D) $11 \times .17$

selects
appropriate
operations

Jasper's family eats an average of 3 dozen eggs per month. Which shows the average number of eggs they eat per year?

- (A) $(3 \times 12) + 12$
- *(B) $3 \times 12 \times 12$
- (C) $3 \times (12 + 12)$
- (D) $(3 + 12)(12)$

Examples for Indicator 11:

selects
appropriate
operations

Rob earns \$4.80 an hour and $1\frac{1}{2}$ times that amount for every hour over 40. If Rob works 45 hours one week, which shows the amount he earns?

- *(A) $(40 \times \$4.80) + (5 \times 1\frac{1}{2} \times \$4.80)$
- (B) $(40 \times \$4.80) + (5 \times \frac{1}{2} \times \$4.80)$
- (C) $(45 \times \$4.80) + (1\frac{1}{2} \times \$4.80)$
- (D) $(45 \times \$4.80) + (\frac{1}{2} \times \$4.80)$

selects
appropriate
operations

Joni gave the clerk \$50 as a down payment for a guitar. She made 10 monthly payments of \$25 each. Which shows the total cost of the guitar?

- (A) $(50 \times 10) + 25$
- (B) $(50 + 10) \times 25$
- (C) $50 + (10 + 25)$
- *(D) $50 + (10 \times 25)$

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Problem Solving

Indicator 12: The student solves simple word problems in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Solutions to word problems may involve several mathematical operations with two to four logical steps.

Computation, purposely, is kept simple.

Money or percent problems are not tested in this indicator.

- Items may require identifying a correct solution procedure described verbally.
- Items may require simple logical reasoning tasks. Solutions, in these cases, will not be numerical.

Example for Cluster 12:

solves word
problems

Paula has a part-time job packing tangerines into gift boxes. She gets paid only for tangerines in boxes she has filled completely. Each box holds 12 tangerines. Paula packed 477 tangerines. For how many tangerines will she be paid?

- (A) 9
- (B) 39
- *(C) 468
- (D) 477

Examples for Indicator 12:

logical
reasoning

Julio, Simon, Sara, and Gretta are members of a rock band. The keyboard player is a male. The guitar and bass players sing. Simon doesn't play the drums. The guitar player is female. Julio and Sara do not sing.

Who plays the drums?

- (A) Julio
- (B) Simon
- *(C) Sara
- (D) Gretta

solves word
problems

A board is 7 feet long. Five pieces, each 12 inches long, are cut off the board. Which is the length of the remaining piece?

- (A) 19 in.
- *(B) 24 in.
- (C) 60 in.
- (D) 84 in.

solves word
problems

Of the 140,000 acres in the nature preserve, only about 7% can be developed for recreation facilities. How many acres will not be developed?

- (A) 9,800
- (B) 42,000
- (C) 98,000
- *(D) 130,200

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Problem Solving

Indicator 13: The student organizes data into tables, charts, and graphs in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

Items focus on collecting and organizing data to help solve a problem.

- Items require students to select the best arrangement for a set of data.

Data may be arranged into tables, charts, bar graphs, circle graphs, pictographs, decision tables, Venn diagrams, or flow charts.

Some interpretation may be required. The best organization of data should reflect those characteristics that are essential for the solution of the problem. (For example, important fluctuations in growth may be obscured if the scale is too large.)

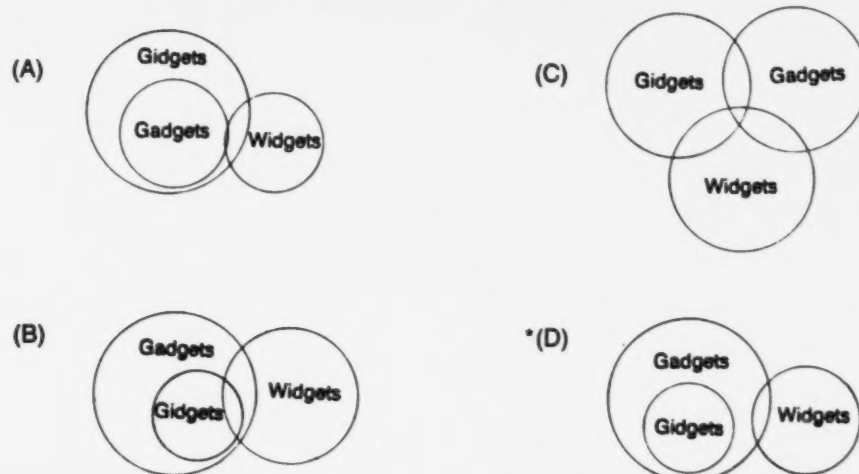
- Items may require students to determine what additional information is needed to solve a specific problem.

A variation may require students to select which question to ask for collecting data needed for a specified task.

Example for Indicator 13:

organizes
data

All gidgets are gadgets. Some widgets are gadgets. No widgets are gidgets. Which diagram shows these statements?



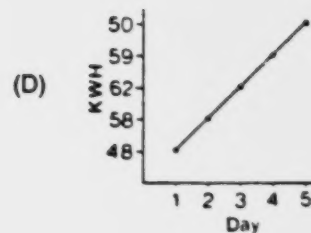
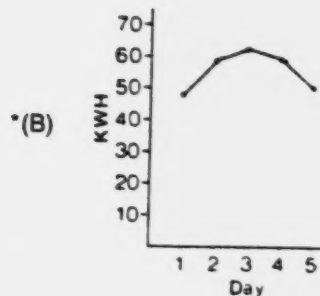
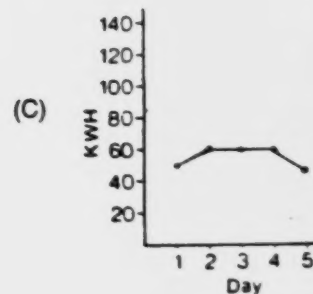
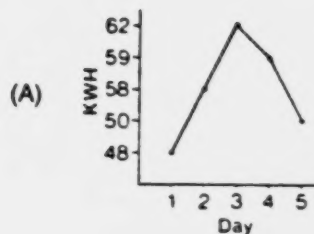
Examples for Indicator 13:

Electricity Usage

Day	KWH
1	48
2	58
3	62
4	59
5	50

organizes
data

Which graph should Bob use to show the amount of electricity he used?



determines
information

Sam is driving a truck and sees a sign that says the underpass has a clearance of 13'2". Which does Sam need to know about his truck to avoid problems clearing the underpass?

- (A) contents of the truck
- (B) height of the truck
- (C) size of motor
- (D) weight of cargo

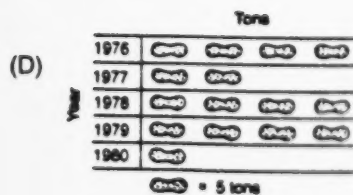
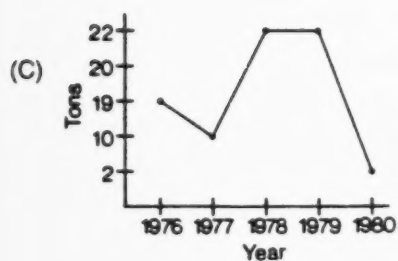
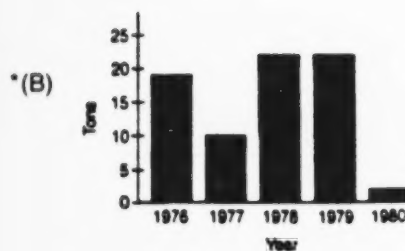
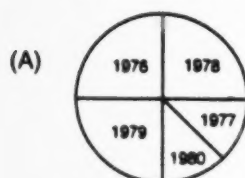
Examples for Indicator 13:

PEANUTS SOLD

1976	— 19 tons
1977	— 10 tons
1978	— 22 tons
1979	— 22 tons
1980	— 2 tons

organizes
data

Which graph correctly represents the data in the table?



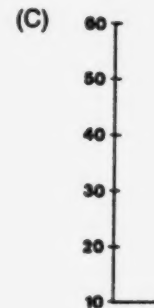
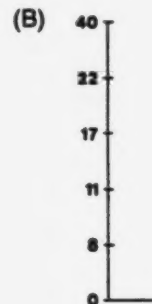
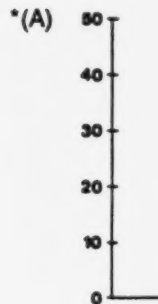
Examples for Indicator 13:

Sales of Cars by Color

Color	Number
Silver	17
Maroon	11
Light Blue	22
Brown	8

organizes
data

Which scale should be used to graph this information?



collects
data

Mr. Stein will take his class to Six Flags if more than half the students want to go. Which question should Mr. Stein ask each student?

(A) How many times have you been to Six Flags?

(B) How many different rides are at Six Flags?

(C) Which ride do you like best?

*(D) Do you want to go to Six Flags?

**BASIC SKILLS TESTS:
MATHEMATICS INDICATORS**

Skill Area: Problem Solving

Indicator 14: The student interprets data which has been organized in the context of academic tasks, everyday tasks, or employment activities.

Assessment Characteristics:

- Items require students to use information in tables, charts, maps, circle, bar, or line graphs, pictographs, Venn diagrams, decision tables and flow charts to solve a problem.

Items require more than reading the information; they also require synthesizing information, identifying a relationship or rule, drawing conclusions about data, or making inferences about trends.

- Items may require calculating a mean or median. The answers will always be in whole numbers.
- Items may require students to determine probabilities by choosing the most likely, least likely, or equally likely events.

Items do not include probabilities presented as percents, joint events, or dependent events. Items do not use combinations or permutations.

Examples for Indicator 14:

Janie's Bowling Scores

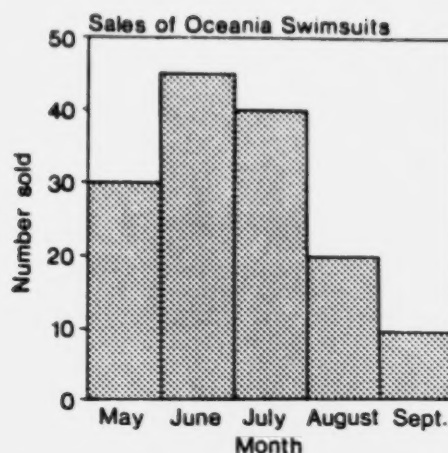
Game	Score
1	105
2	130
3	95
4	98
5	140

determines
median

Which is the median score?

- (A) 95
- (B) 105
- (C) 113
- (D) 140

Examples for Indicator 14:



interprets
data

This graph shows the number of swimsuits sold each month. Which statement is true?

- (A) Swimsuit sales improved continually for the five months shown.
- (B) Sales were five times better in May than in September.
- *(C) Sales of swimsuits began to slow down after June.
- (D) More swimsuits are sold during all of July, August, and September than in the previous two months.

interprets
data

How many more swimsuits were sold in May than August?

- (A) 5
- *(B) 10
- (C) 20
- (D) 30



Bowl X



Bowl Y



Bowl Z

determines
probability

If a person drew a marble without looking, from which bowl would a red marble **MOST LIKELY** be drawn?

- *(A) Bowl X
- (B) Bowl Y
- (C) Bowl Z
- (D) Equally likely from any bowl

Examples for Indicator 14:

City Population

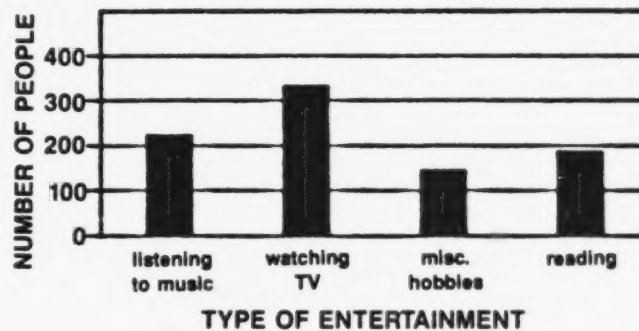
Age Group	Number (to the nearest 1000)
Under 16	25,000
16-25	40,000
26-65	90,000
Over 65	5,000

interprets
data

According to this table, which statement is true?

- (A) Less than 4,000 people are 65 years old.
- (B) 30,000 people in the city are 26 to 40 years old.
- (C) There are more than twice as many people 30 years of age than 20 years of age.
- *(D) More than half of the city population is 26 years of age or older.

ENTERTAINMENT SURVEY



interprets
data

About how many people were surveyed in all?

- (A) 325
- (B) 400
- (C) 600
- *(D) 900

Federal law prohibits discrimination on the basis of race, color or national origin (Title VI of the Civil Rights Act of 1964); sex (Title IX of the Educational Amendments of 1972 and Title II of the Carl D. Perkins Vocational Education Act of 1984); or handicap (Section 504 of the Rehabilitation Act of 1973) in educational programs or activities receiving federal financial assistance.

Employees, students and the general public are hereby notified that the Georgia Department of Education does not discriminate in any educational programs or activities or in employment policies.

The following individuals have been designated as the employees responsible for coordinating the department's effort to implement this nondiscriminatory policy.

Title II — Ann Lary, Vocational Equity Coordinator

Title VI — Peyton Williams Jr., Associate Superintendent of State Schools and Public Libraries

Title IX — Myra Tolbert, Coordinator

Section 504 — Jane Lee, Coordinator of Special Education

Inquiries concerning the application of Title II, Title VI, Title IX or Section 504 to the policies and practices of the department may be addressed to the persons listed above at the Georgia Department of Education, Twin Towers East, Atlanta 30334; to the Regional Office for Civil Rights, Atlanta 30323; or to the Director, Office for Civil Rights, Education Department, Washington, D.C. 20201.

**Student Assessment Unit
Standards and Assessment Division
Office of Planning and Development
Georgia Department of Education
Charles McDaniel
State Superintendent of Schools
July 1985**

S 1184/1M